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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,326	01/08/2002	Laurent Heux	410.019	4608
20311	7590	11/04/2003	EXAMINER	
MUSERLIAN AND LUCAS AND MERCANTI, LLP 475 PARK AVENUE SOUTH NEW YORK, NY 10016			DI NOLA BARON, LILIANA	
			ART UNIT	PAPER NUMBER
			1615	

DATE MAILED: 11/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/018,326

Applicant(s)

HEUX ET AL.

Examiner

Liliana Di Nola-Baron

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 2, 4, 7, 11, 13 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Regarding claim 2, the phrase "especially" renders the claim indefinite, because it is not clear whether the limitations following the phrase are part of the claimed invention.
4. Regarding claim 4, the phrase "in that" in line 3 renders the claim indefinite, because it is not clear what Applicant means by said phrase.
5. Claim 7 recites the limitation "A dispersion of claim 1 where the co-surfactant possesses" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim, because claim 1 does not read on a co-surfactant.
6. Claim 11 recites the limitation "the weight ratio between (a) and (b)" in line 6. There is insufficient antecedent basis for this limitation in the claim.
7. Claim 13 recites the limitation "a thickened and/or viscous, organic solvent as defined in claim 4" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.
8. Claim 20 recites the limitation "a dry mixture of claim 19" in line 3. There is insufficient antecedent basis for this limitation in the claim, because claim 19 does not read on a dry mixture.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-11, 13 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantiani et al. (U.S. Patent 6,231,657).

Cantiani et al. discloses a composition comprising cellulose nanofibrils and at least one co-additive, and a process for preparing said composition comprising adding the co-additive to the nanofibril suspension, drying the suspension and redispersing the composition (See col. 3, lines 10-45).

With regard to claims 1-3, 6 and 17, the cellulose nanofibrils compositions disclosed by Cantiani et al. comprise polysaccharides (See col. 4, lines 3-16) and cationic or amphoteric surfactants (See col. 7, lines 3-52), and the precipitated compositions obtained by the process of the invention are dispersed in alcohol (See col. 9, lines 1-6). Thus, the patent provides dispersions of fibrillar cellulose and polysaccharides containing a surfactant, as claimed by Applicant. The patent does not specifically teach that the compositions of the invention are colloidal dispersions, however, Cantiani et al. teaches that the suspension is obtained by redispersing the composition after the step of drying (See col. 3, lines 33-35).

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With respect to claim 4, Cantiani et al. provides the compositions in alcohol (See col. 9, lines 1-6).

Regarding claim 5, Cantiani et al. teaches that the stock nanofibril dispersion contains 2.3% of cellulose nanofibrils (See col. 10, lines 66-67).

With respect to claims 7, 8 and 18, Cantiani et al. teaches that the nanofibrils of the compositions are charged at the surface with carboxylic acids, and specifically galacturonic acid, which is a carboxylic acid having 6 carbon atoms (See col. 4, lines 3-12).

With regard to claim 9, Cantiani et al. teaches that the dry compositions of the invention are readily dispersable, have a good level of viscosity at a low shear gradient and rheological profile of shear-thinning type (See col. 3, lines 36-45).

Regarding claim 10, Cantiani et al. discloses a process comprising adding a surfactant to the nanofibril suspension, drying the suspension to remove the water and redispersing the composition (See col. 8, lines 42-67). Cantiani et al. contemplates redispersing the dried composition in alcohol (See col. 9, lines 1-6).

With regard to claim 11, Cantiani et al. includes alkyldimethylethylammonium halides among the cationic surfactants (See col. 7, lines 22-27), contemplates eliminating the water from the composition upon drying (See col. 8, lines 52-53), compositions comprising an amount of

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surfactant less than 30% (See col. 7, lines 53-59), and a solid content of at least 40% (See col. 8, lines 33-36), and redispersing the dried composition in alcohol (See col. 9, lines 1-6). With respect to the weight ratio claimed by Applicant, it is not clear what weight ratio is claimed in instant claim 11. The patent is silent with respect to the rate of absorption between the surfactant and the cellulose microfibrils, however, one of ordinary skill in the art would have been capable of determining the optimal ratio by routine experimentation.

Regarding claim 13, Cantiani et al. contemplates redispersing the dried composition comprising cellulose nanofibrils and a surfactant in alcohol (See col. 9, lines 1-6).

With respect to claims 19 and 20, Cantiani et al. teaches that the compositions of the invention and the suspensions obtained by redispersion of the compositions can be used for cosmetics, detergents and food (See col. 10, lines 53-59).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teachings of Cantiani et al. to device colloidal dispersions of fibrillar cellulose and a process for forming said dispersions. The expected result would have been a successful composition and a successful process of making said composition. Because of the teachings of Cantiani et al., that the compositions of the invention have desirable properties and may be used in the preparation of cosmetics, detergents and food, one of ordinary skill in the art would have a reasonable expectation that the compositions and process claimed in the instant application would be successful at providing colloidal dispersions of fibrillar cellulose.

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Therefore the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liliana Di Nola-Baron whose telephone number is 703-308-8318. The examiner can normally be reached on Monday through Thursday, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 703-308-2927. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1234/ 1235.

LDN83

November 2, 2003

THK
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